UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,862	06/28/2006	Gabor Fodor	4208-32	7851

23117   7590   12/10/2008
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EXAMINER
CATTUNGAL, AJAY P

ART UNIT	PAPER NUMBER
4173	

MAIL DATE	DELIVERY MODE
12/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _28 June 2006_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-24_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-3,9-11,17-19,25 and 26_ is/are rejected.
7) ☒ Claim(s) _4-8,12-16 and 20-24_ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some *   c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _06/28/06_.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 25 and 26 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. The claims 25 and 26 teach of a computer

program that is nonstatutory and is not bound to a physical entity.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

4.   Claims 1-3, 9-11, 17-19, 25/1-3 and 26/1-3 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Lakshmi Narayanan et al (US 7,420,943) in view of P.

Srisuresh, "Middlebox Communications (MIDCOM) Architecture and framework", IETF

RFC3303; http://www.ietf.org/rfc/rfc3303.txt (Middlebox NPL).

Re claim 1, Lakshmi Narayanan et al discloses a method for handling context of data

packet flows, said flows being simultaneous and belonging to the same session,

between terminals through a network structure comprising at least a network comprising

a number of routers(AR) for routing data packet flows between the routers along data

packet flow paths connecting said terminals (mobile nodes), of which terminals at least

one is mobile (leaving office and entering outside world) and may change access

between different access points of said network structure, Wherein an access point

comprises an access router (AR) (See figure 1 and column 3 lines 5-17). Lakshmi

Narayanan et al does not explicitly disclose a method wherein an access point

comprises an access router and a middlebox, which is controlled and supported by an

associated Midcom Agent belonging to a domain of said network structure, of the

method comprising: - dividing the total context associated to a session into common

context, which is common to all flows of the session, and one dynamic context per data

packet flow of the session; - storing said common context in a Midcom Agent of a first

domain of the

network; - storing each dynamic context in a middlebox through which the associated

flow passes; However, Middlebox NPL teaches of a method wherein an access point

comprises an access router and a middlebox (middlebox communication), which is

controlled and supported by an associated Midcom Agent (Midcom Agent) belonging to

a domain of said network structure, of the method comprising: - dividing the total context

associated to a session into common context, which is common to all flows of the

session (page 9 lines 5 and 6 middlebox to delegate application specific processing to

the midcom agent), and one dynamic context per data packet flow of the session;

- storing said common context in a Midcom Agent of a first domain of the

network(see page 8 fig 1 Proxy server and page 9 lines 5 and 6 middlebox to delegate

application specific processing to the midcom agent);

- storing each dynamic context in a middlebox through which the associated

flow passes (Page 8 Figure 1 Proxy server and Middlebox function specific policy rules

and other attributes). It would have been obvious to one having ordinary skill in the art

at the time of the invention was made to use the dividing of the total context of

Middlebox NPL with the network structure of Lakshmi Narayanan et al. in order to have

a network intermediary device that performs one or more services.

Re claim 2, Note that Lakshmi Narayanan et al. discloses transferring dynamic

context (context transfer) associated to a data packet flow, when a data packet flow is

moved from a middlebox (AAA) in the first domain (AS1) to another middlebox (AAA) in

an access point (AR1) in said first domain or to a middlebox (AAA) of an access point

(AR2) in a second domain (AS2) (Abstract lines 4-8, col 3 para 2 and 3).

Re claim 3, Note that Middlebox NPL teaches A method of keeping in the

Midcom Agent (MIDCOM agent) of the first domain the common context (application

specific processing) of data packet flows of a session and the control (invoke services of

the middlebox) of the dynamic context (permit access) of each flow in middleboxes

through which the data packets of the session flows as long as there is one flow

belonging to said session in said first domain(page 8 fig 1 and page 9 lines 1- 9).

Re claim 9, Lakshmi Narayanan et al discloses a method for handling context of

data packet flows, said flows being simultaneous and belonging to the same session,

between terminals through a network structure comprising at least a network comprising

a number of routers(AR) for routing data packet flows between the routers along data

packet flow paths connecting said terminals (mobile nodes), of which terminals at least

one is mobile (leaving office and entering outside world) and may change access

between different access points of said network structure, Wherein an access point

comprises an access router (AR) (See fig 1 and col 3 lines 5-17). Lakshmi Narayanan et

al does not explicitly disclose a method wherein an access point comprises an access

router and a middlebox, which is controlled and supported by an associated Midcom

Agent belonging to a domain of said network structure, of the method comprising: -

dividing the total context associated to a session into common context, which is

common to all flows of the session, and one dynamic context per data packet flow of the

session; - storing said common context in a Midcom Agent of a first domain of the

network; - storing each dynamic context in a middlebox through which the associated

flow passes; However, Middlebox NPL teaches of a method wherein an access point

comprises an access router and a middlebox (middlebox communication), which is

controlled and supported by an associated Midcom Agent (Midcom Agent) belonging to

a domain of said network structure, of the method comprising: - dividing the total context

associated to a session into common context, which is common to all flows of the

session (page 9 lines 5 and 6 middlebox to delegate application specific processing to

the midcom agent), and one dynamic context per data packet flow of the session;

- storing said common context in a Midcom Agent of a first domain of the

network(see page 8 fig 1 Proxy server and page 9 lines 5 and 6 middlebox to delegate

application specific processing to the midcom agent);

- storing each dynamic context in a middlebox through which the associated

flow passes (Page 8 Figure 1 Proxy server, and Middlebox function specific policy rules

and other attributes). It would have been obvious to one having ordinary skill in the art

at the time of the invention was made to use the dividing of the total context of

Middlebox NPL with the network structure of Lakshmi Narayanan et al. in order to have

a network intermediary device that performs one or more services.

Re claim 10, Note that Lakshmi Narayanan et al. discloses transferring dynamic

context (context transfer) associated to a data packet flow, when a data packet flow is

moved from a middlebox (AAA) in the first domain (AS1) to another middlebox (AAA) in

an access point (AR1) in said first domain or to a middlebox (AAA) of an access point

(AR2) in a second domain (AS2) (Abstract lines 4-8, col 3 para 2 and 3).

Re claim 11, Note that Middlebox NPL teaches A method of keeping in the

Midcom Agent (MIDCOM agent) of the first domain the common context (application

specific processing) of data packet flows of a session and the control (invoke services of

the middlebox) of the dynamic context (permit access) of each flow in middleboxes

through which the data packets of the session flows as long as there is one flow

belonging to said session in said first domain(page 8 fig 1 and page 9 lines 1- 9).

Re claim 17, Note that Middlebox NPL discloses a Midcom Agent (Midcom

agent) for handling context of data packet flows in a network system, wherein the

network system comprises:- Means for dividing the total context associated to a session

into common context, which is common to all flows of the session (page 9 lines 5 and 6

middlebox to delegate application specific processing to the midcom agent), and one

dynamic context per data packet flow of the session;

- Means for storing said common context in a Midcom Agent of a first

domain of the network structure(see page 8 fig 1 proxy server and page 9 lines 5 and 6

middlebox to delegate application specific processing to the midcom agent);

Means for storing each dynamic context in a middlebox through which the

associated flow passes Page 8 Figure 1 proxy server and Middlebox function specific

policy rules and other attributes).

Re claim 18, Note that Lakshmi Narayanan et al. discloses transferring dynamic

context (context transfer) associated to a data packet flow, when a data packet flow is

moved from a middlebox (AAA) in the first domain (AS1) to another middlebox (AAA) in

an access point (AR1) in said first domain or to a middlebox (AAA) of an access point

(AR2) in a second domain (AS2) (Abstract lines 4-8, col 3 para 2 and 3).

Re claim 19, Note that Middlebox NPL teaches A method of keeping in the

Midcom Agent (MIDCOM agent) of the first domain the common context (application

specific processing) of data packet flows of a session and the control (invoke services of

the middlebox) of the dynamic context (permit access) of each flow in middleboxes

through which the data packets of the session flows as long as there is one flow

belonging to said session in said first domain(page 8 fig 1 and page 9 lines 1- 9).

Re claim 25/1-3, Note that Lakshmi Narayanan et al. discloses a computer

program product comprising computer executable software stored on a computer

readable medium, the software being adapted to run at a computer or other processing

means and wherein when said computer executable software is loaded and read by

said computer or other processing means, said computer or other processing means is

able to perform the steps of the method according to claim 1 (see figure 1 for example).

Re claim 26/1-3, Note that Lakshmi Narayanan et al. discloses a computer

program product stored on a computer usable medium, comprising readable program

for causing a processing means within a network node to control the execution of the

steps of claim 1 (see figure 1 for example).

Allowable Subject Matter

5.   Claims 4-8 12-16 and 20-24 are objected to as being dependent upon a rejected

base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Re claims 4 -8, 12-16 and 20-24, the prior arts do not teach the combination

including a method of determining whether all flows belonging to the session are

moved from the first domain, or not; transferring the common context of a session flow

from the Midcom Agent of the first domain to a Midcom Agent of a second domain

having at least one of said flows, if all said flows have been transferred from said first

domain; transferring the control of the associated dynamic context stored in the

middleboxes through which the data packets of the session flows from the Midcom

Agent of the first domain to a Midcom Agent of a second domain having at least one of

said flows, if all said flows have been transferred from said first domain; establishing

communication between the two Midcom Agents MA1 and MA2

Re claims 4 -8, 12-16 and 20-24, the prior arts do not teach the combination

including a network system with means for determining whether all flows belonging to

the session are moved from the first domain, or not; Means for Transferring the

common context of a session flow and the control of the associated dynamic context

stored in the middleboxes through which the data packets of the session flows from the

Midcom Agent of the first domain to a Midcom Agent of a second domain having at least

one of said flows, if all said flows have been transferred from said first domain; Means

for establishing communication between the two Midcom Agents MA1 and MA2.

Re claims 4 -8, 12-16 and 20-24, the prior arts do not teach the combination

including a means for determining whether all flows belonging to the session are moved

from the first domain, or not; Means for Transferring the common context of a session

flow and the control of the associated dynamic context stored in the middleboxes

through which the data packets of the session flows from the Midcom Agent of the first

domain to a Midcom Agent of a second domain having at least one of said flows, if all

said flows have been transferred from said first domain; Means for establishing

communication between the two Midcom Agents MA1 and MA2.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Soininen et al. (US 2008/0151837) teaches a method of

transferring the common context of a session flow from the midcom agent of the first

domain to the midcom agent of the second domain.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to AJAY P. CATTUNGAL whose telephone number is

(571)270-7525. The examiner can normally be reached on Monday- Friday 7:30 - 5:00,

Alternating Fridays OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jinhee Lee can be reached on 571-292-1977. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000

/Jinhee J Lee/
Supervisory Patent Examiner, Art Unit 4173

/A. P. C./
Examiner, Art Unit 4173